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ILCEP MONOGRAPH 7

TITLING TECHNICAL REPORTS FOR OPTIMUM USE AND RETRIEVAL

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*Short, specific main titles using
standard terminology prevent information loss;
complementary subtitles provide
quick reader comprehension*

N. L. Chadbourne

ILCEP

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FOREWORD

This publication is one of a series of monographs issued by the Interlaboratory Committee on Editing and Publishing (ILCEP) of the seven West Coast Navy Laboratories. ILCEP is composed of the senior publications officers at these laboratories, and functions as a subcommittee of the Interlaboratory Committee on Facilities.

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PREFACE

This monograph provides guidelines for the effective titling of technical reports and other documents. It is intended for scientists, engineers, editors, and others who may be required to compose new titles. The approach is based on the quick reader comprehension (QRC) philosophy outlined in my earlier ILCEP Monograph 2.

I wish to thank Messrs. W. E. Jorgensen and I. G. Carlson of the NEL library for their interest, helpful suggestions, and criticism of the original manuscript.

H. L. Chadbourne

ABSTRACT

Technical reports need proper titles to prevent information loss and save reading time. Fortunately, the requirements of use and retrieval are completely compatible. Main titles should employ standard terminology and should be specific, precise, short, and unclassified. Subtitles should be used and should cover secondary-level information, such as extent of subject coverage, type of approach, action taken, and results achieved. Good title-subtitle units may be composed in a few minutes' time.

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*Short, specific main titles using standard
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N. L. Chadbourne

THE CASE FOR BETTER TITLES

"The title of a technical paper should be one of the simplest and most effective devices for announcement and retrieval; yet titles... are often meaningless."^{1*} So noted the President's Science Advisory Committee.

A good title:

Speeds routing of a document to people who really need it.

Informs readers of subject-matter coverage at a glance.

Lets librarians file and index the material so it is readily accessible for future literature searches.

Assures that the document will be on call in modern document-retrieval systems.

*See list of references on page 12.

Still bad titles prevail. They waste scientific and engineering reading time and defy retrieval. They often lead to complete information loss. They compound our present serious difficulties in scientific and technical communications.

Although improving the literature as a whole is difficult, improving titles is simple. A clear, informative title and subtitle for a technical report can be written in 10 minutes. This monograph gives some suggestions on how to do it.

DISCIPLINE AND MAIN TITLES

The good title is starkly simple, yet inclusive. It is neither cute nor cumbersome. It clearly reveals the coverage of the publication, and that is all. It evidences discipline.

Fortunately, the disciplined title is ideal not only for computers but also for readers and librarians. No compromise is involved. Audience and machine needs are completely compatible.



Today's scientist or engineer needs to sift through a huge volume of literature to locate references he needs in his work. For this sifting process, even 200-word abstracts take too long to read. Therefore the trend is to replace abstract lists with title lists.⁵ Such lists demand title wording that is precise, complete, and commonly understood.

TIME SCALE WITH FINITE STORAGE.- A TRANSIENT DISCHARGE	0262
CHARGE EQUILIBRIUM IN A STORED AEROSOL DURING AGING.- THE AP	1345
1 SECOND.- A DEPLETION STOP OF MICROSCOPES WITH PERIODS OF	2090
ION BETWEEN SOLAR WIND STORMS AND OBSERVABLE PARAMETERS OF	1797
101N AND CREAT OF WIND STORMS ON THE SOLAR CISA.- DISTRIB	1798
ATOMIC CO LORINATION ON STRAIN AGING OF ALPHA-1 CH.- THE IMP	0260
CP SOLUTE ATOMS DURING STRAIN AGING.- SEGREGATION	2419
RES OF ESCHERICHIA KOLI STRAIN B/AL.- DIRECT SELECTION OF L-	0209
S.- RELEASE OF TECTONIC STRAIN BY UNDERGROUND NUCLEAR EXPLOS	0737
V VARIANT FROM A BACCIC STRAIN OF CRYPTOCOCCUS NEOFORMANS AN	0114
CRITIC OF THE AMERICAN STRAIN OF SYRINGIUM CORNII.- MU	0821
CLAY.- THE INFLUENCE OF STRAIN ON SHEARING RESISTANCE OF SEN	1960
ICATE CULTURES OF THE L STRAIN.- QUANTITATIVE STUDIES ON THE	1050
ICATE CULTURES OF THE L STRAIN.- QUANTITATIVE STUDIES ON THE	2369
OF CRYSTALS UNDER ANIS STRAIN.- DETECTION	0304
A DOUBLE CYCLES.- THE STRAIN-RATE DEPENDENCE-OF THE FLOW S	2076
SHIPS OF TRACHEA VIRUS STRAINS IN THE HOUSE TOXICITY PREVEN	0403
SHIPS OF TRACHEA VIRUS STRAINS IN THE HOUSE TOXICITY PREVEN	0876

One sort of title list is that provided by the recent technique of per-muted or key word in context (KWIC) indexing. The example above is from the Defense Documentation Center. Here meaningful words in titles are successively aligned by computer. An attractive feature is that the process is almost entirely automatic. But these indexes are not as useful as they should be. The trouble rests with bad titles.

GUIDELINES FOR MAIN TITLES

Here are eight points to note in titling:

1. Be specific. Identify both the principal subject field and the major subfield covered by the text.
2. Use standard terminology such as the subject headings (descriptors) specified by the Defense Documentation Center² or the Engineers Joint Council.³ Uniform nomenclature is essential for retrieval.
3. Keep titles short -- ten words or less.
4. Keep titles unclassified. Security classification severely restricts use.
5. Remember that libraries file documents under the first significant word in the title. Therefore, be sure this word is the appropriate one.
6. Minimize the use of generalized terms that are inappropriate for indexing (words such as research, development, test, investigation, survey, interim, final, etc., belong in subtitles but not in main titles).
7. If you use recently coined acronyms in titles, also spell out the words (unless this is prohibited by security regulations).
8. Have the wide audience in mind. Shun jargon.

Main titles function in the same manner as mail addresses on envelopes, except that the locators in titles refer to subject fields rather than to places. Too-general or misleading titles result in loss of documents to the information system, just as too-general or incorrect addresses lead to loss of mail.

EXAMPLES OF BAD AND GOOD TITLES

Several titles, disguised by paraphrasing, are given to illustrate the preceding points.

ORIGINAL	COMMENT	REVISION
PRELIMINARY BASE STUDY	"Preliminary" and "Study" are excluded words (i. e., not suitable for use in literature searches). "Base" is inexplicable as it stands. There is no clue to the subject field of this report. Title is worthless.	BEACON-ACTUATED SIGNALING EQUIPMENT (BASE) — PRELIMINARY STUDY
SOME OCEANOGRAPHIC MEASUREMENTS	Far too general. Equivalent to addressing an envelope with only the words, "State of Montana." Librarians would probably not index the title of this report, since such an entry would be meaningless for retrieval purposes.	TURBIDITY AND CURRENT MEASUREMENTS IN SCRIPPS CANYON
IMPROVEMENT IN WEAK-SIGNAL RADIO RECEPTION CONSEQUENT TO THE USE OF OPTIMUM GAIN CONTROL SETTINGS	"Improvement in" and "Consequent to the Use of" are redundant. This is undisciplined titling.	RADIO GAIN CONTROL SETTINGS FOR OPTIMUM WEAK-SIGNAL RECEPTION
AN EXPERIMENTAL PROGRAM TO DETERMINE THE FEASIBILITY OF AMPLIFICATION OF VOLTAGES THROUGH THE MEDIUM OF RADIO VACUUM TUBES AND ASSOCIATED APPARATUS	Undisciplined titling at its worst. Length is not exaggerated; one report title noted recently had twenty-three words.	RADIO VACUUM TUBES AS VOLTAGE AMPLIFIERS

WHY TITLE-SUBTITLE UNITS ARE VALUABLE

A good main title pinpoints the subject covered in a report. It satisfies the documentalist. But the reader generally wants more information than can be given by specific subject-field addresses. The answer is a subtitle, rather than an unwieldy main title.

Titles and subtitles in combination save audience time. They give the report recipient two views of the subject matter at a glance -- a long shot with the title and a close-up with the subtitle. The shift from one to the other is accomplished partly through typography and layout. Consequently, the clumsy transitional devices required in straight prose to shift topic, slant, or type of coverage are not needed. It is as if title and subtitle were different media.

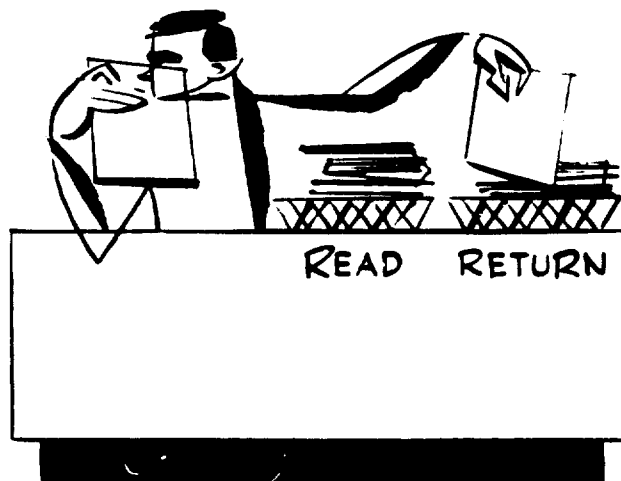
In fact, subtitles relate to titles as captions relate to illustrations. They are complementary. Properly done, the result in either case is an informational unit, or module, that promotes quick reader comprehension.⁴

GUIDELINES FOR SUBTITLES

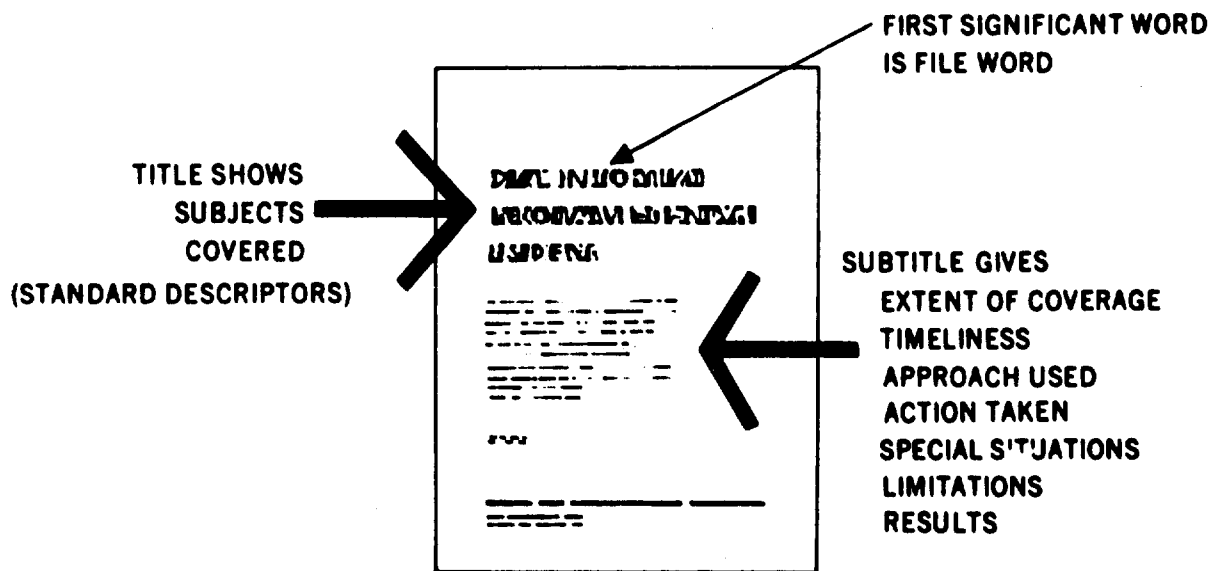
The subtitle is the place to state:

1. Extent and timeliness of subject-matter coverage (interim report, final report, theoretical study, survey of field, historical review, 1965 findings, etc.).
2. Type of approach used (research, development, test, evaluation, operations analysis, mathematical study, etc.).
3. Action taken (it is often difficult to use an action verb in a main title without giving the effect of an advertising blurb; this is not true in a subtitle).
4. Special situations in authorship or conduct of work (for example, "Joint BUSHIPS-BUWEPS Investigation...").
5. Limitations of work (for example, comment restricting findings to a special case).
6. RESULTS ACHIEVED! (Reports are not suspense stories; the sooner the accomplishment is stated, the better.)

Although main titles should always be unclassified, subtitles may be classified if required to convey the essential information.



R&D administrators often have many reports cross their desks each day. They cannot study them all. So the decision to read or return each document is usually based on cover information. Misleading titles cause report recipients to waste time reading irrelevant material or to waste knowledge by discarding information of importance.



Informative titles are required to make retrieval systems work and to conserve audience time. Prospective readers also benefit greatly from the use of subtitles on reports. The subtitles provide secondary-level facts on the nature, scope, and findings of the task being reported. They supplement the sort of information that can be covered with the standard subject descriptors of the main title.

EXAMPLES OF EFFECTIVE TITLE-SUBTITLE UNITS

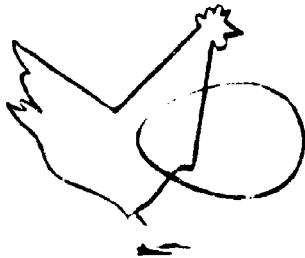
Here are two paraphrased versions of actual titles, together with revised title-subtitle units.

ORIGINAL	COMMENT	REVISION
DESIGN AND DEVELOPMENT OF A NEW TYPE OF SIGNAL GENERATOR HAVING UNUSUAL CAPABILITIES	Too long. Wastes words. Not very informative. "Design and Develop- ment of" are excluded words. Fur- thermore, it is better to state the "Unusual Capabilities" than to use such a vague expression. Be specific.	SIGNAL GENERATOR FOR WIDE- BAND RF MEASUREMENTS <i>Compact transistorized unit provides 10-volt sine wave output from 10 kc/s to 100 Mc/s without bending</i>
A MODEL STUDY FOR THE XYZ UNDERWATER SONAR TRANS- DUCER SYSTEM	"A Model Study" is ambiguous. Does it mean example for imitation? Scale model? Artist's model? In any event, the words "A Model Study" are un- suitable for searching and do not con- tribute to the subject-field address. "System" seems misused, as it so often is in R&D work.	XYZ SONAR TRANSDUCER PLACEMENT ON SUBMARINES <i>Scale-model studies show that dual bow and stern units provide optimum acoustic per- formance with minimum mechanical drag</i>

The following actual title-subtitle units illustrate good practice.

ORIGINAL	COMMENT
<p>from <u>Natural History</u> magazine CONCERNING QUETZALS</p> <p><i>An amateur naturalist examines the bird, itself, its Nahuatl name, and the nature of the divine feathered serpent. Quetzalcoatl</i></p>	<p>This is an outstanding achievement in information-packing -- making words do double or triple duty by careful phrasing and arrangement. Note how many different pertinent facts the reader receives immediately. A paragraph of information has been condensed into twenty-one words while retaining complete clarity.</p>
<p>from an NEL report THE OMEGA LONG-RANGE NAVIGATION SYSTEM</p> <p><i>A seven-station global network to provide aircraft, surface vessels, and completely submerged submarines with accurate position fixes day and night under all weather conditions. Communications capability can be built in</i></p>	<p>Here a title and subtitle unit has been used to form a unit of short abstract. Information content is high. Subtitle length is about maximum.</p>
<p>from an NEL report RECEIVING ANTENNA COMPLEX FOR 2 TO 8 MC/S</p> <p><i>Simultaneous operation of twelve tuned whips on a single 25-foot grounded tower is shown to be feasible</i></p>	<p>Quite informative. Alternative, and perhaps, preferable, wording for the subtitle would be: "Twelve tuned whips operate simultaneously on a single 25-foot grounded tower."</p>
<p>from an NEL report HEAT TREATMENT EFFECTS ON CAST GOLD ALLOY</p> <p><i>Preheated furnace or salt bath at 450°F produces optimum hardness and structural uniformity</i></p>	<p>Succinct, satisfying statement of work done and results achieved. Title and subtitle are complementary.</p>

OTHER TITLING TIPS



It is usually advisable to finish the manuscript before deciding on title and subtitle. This is because subject-matter coverage and emphasis often change during report preparation. Titles need to reflect content as it is, not as it was planned.

Technical information specialists should be able to provide expert help in titling.

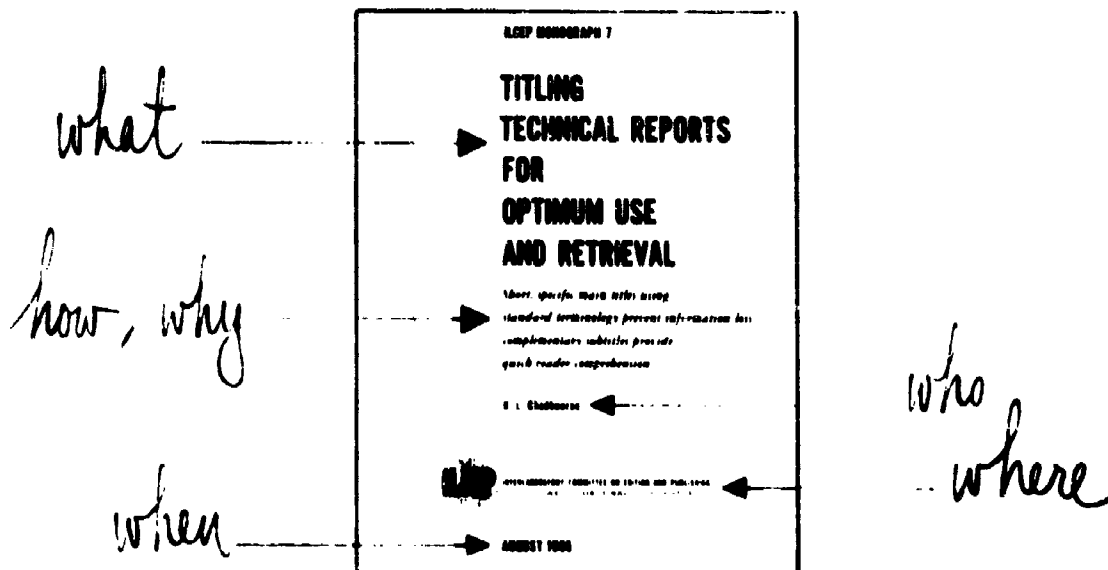
Ideally:

The author roughs out title and subtitle based on his extensive knowledge of the subject matter.

The editor uses his objective view of the report and his ability to express ideas clearly to suggest revisions, especially to the subtitle.

The librarian studies the proposed product (especially the main title) and suggests terminology and word order for effective retrieval.

The three reach a sound decision in minutes, perhaps by telephone.



A good title-subtitle combination forms a coherent, compact, informational module. It provides substantial technical information at a glance. And it fits logically with the other cover elements, such as by-line, agency name, and date. The cover as a whole quickly reveals the essential elements of who, what, where, why, when, and how.

CONCLUSIONS

Good title-subtitle units save audience time. They aid the efficient initial distribution of RDT&E information. And they also suit the needs of librarians and machine retrieval devices.

The trick is to make the *title* specific, precise, short, and unclassified. Select standard (DDC or EJC) descriptors for subject-field addresses. Minimize use of generalized terms that would not be appropriate as keys in indexes.

Make the *subtitle* complement the main title. Let it identify the extent of coverage, type of approach, action taken, special circumstances of the work, and -- most important -- results achieved. Let it give the prospective reader an immediate, intelligent basis for deciding whether to study or discard the document.

Spend the few minutes required to word titles and subtitles properly. If feasible, enlist the aid of an editor and a librarian. A little extra effort in titling should assure optimum use and retrieval of your reports.

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